

**Toxic Release Inventory Reporting**  
**Reporting Year 2017**  
(1/1/2017 to 12/31/2017)

**Ethylene Oxide (CAS# 75-21-8)- FORM R**

**Applicability Threshold**

TOTAL ETO Used = 9,679 pounds

Threshold = 10,000 pounds "otherwise used"

**Status = NOT REPORTABLE, below the 10,000 lbs**

**Activities and Uses**

Ethylene oxide is used as a sterilizer. It is "Otherwise Used" as ancillary use.

**Maximum Amount Onsite**

Based on 2017 Tier II Report, maximum onsite is 1,600 pounds (4 containers max at a time \* 400 lb container)

TRI Code 03= 1,000-9,999 pounds

**On-Site Releases**

Total EO Emissions from Sterilizer = 12.67 pounds =  $9679 * (100 * 99.9) / 100$

Use DRE requirement and use your annual use multiplied by % DRE.

Total EO Emissions = 8.71 pounds/yr; 0.00436 tons/yr

**Fugitive or Non-Point Air Emissions**

Of the total emitted from Sterilizer assume 2% is fugitive

$8.71 * 2\% = 0.17$  pounds = 0.2 lb

**Stack or Point Air Emissions**

Emissions from air pollution control device equals the total from sterilizer emissions less the fugitive emissions.

$8.71 - 0.2 = 8.51$  pounds

**Discharges to receiving streams or water bodies**

N/A. There are no direct discharges to receiving streams or waterbodies or stormwater discharges of water containing EO at this site.

**Other onsite disposal methods**

The site does not have on-site underground injection wells, landfills, or surface impoundments. Zero is reported for Section 5.5.4, "Other on-site disposal," in accordance with EPA guidance, because a spill to the land on-site is possible although none were known to occur in 2017.

**Transfers of the Toxic Chemical in Wastes to Off-site Locations**

**POTW**

NA. There are no discharges of wastewater to the POTW that contain EO.

**Off-Site Transfers**

Waste shipments for 2017 were reviewed to identify those which contain ethylene oxide. Condensate water went out as Nonhazardous waste water via Moran Environmental Recovery.

**Onsite Waste Management**

**On-Site Waste Treatment Methods and Efficiency**

EO processed through the Lesni

General Waste Stream is Code A= Gaseous (gases, vapors, airborne particulates)  
Waste Treatment Method is Code H040 = Incineration – thermal destruction other than use as a fuel  
Efficiency Estimate is Code E3= greater than 99%, but less than or equal to 99.99%

#### **Onsite Energy Recovery Methods and Quantity**

No onsite energy recovery took place.

#### **On-Site Recycling Methods and Quantity**

No on-site recycling was done

#### **Waste Management**

##### **Total other on-site disposal or other releases**

Equals the total releases reported in Section 5.1 (fugitive) and Section 5.2 (stack) minus that reported in Section 8.8 (One-time releases not associated with production):

There were no significant “one-time releases not associated with production” of ETO in 2017.

Therefore, the totals for this Section will equal those reported in Section 5.

8.7 lbs

##### **Quantity used for energy recovery onsite**

No onsite EO energy recovery took place.

##### **Quantity used for energy recovery offsite**

No EO waste was shipped offsite for energy recovery purposes.

##### **Quantity recycled onsite**

No EO was recycled on site.

##### **Quantity recycled offsite**

No EO waste was shipped offsite for purposes of recycling.

##### **Quantity treated onsite**

Equals the EO Vented to Control Equipment (see GPLPE sheets for calculations)

Sterilizers = 9670 pounds =  $99.91\% \times 9679$  = rounded to 9670 lbs

#### **Section 8.7: Quantity treated offsite**

NA

#### **Section 8.8: One-time releases not associated with production**

There were no significant “one-time releases not associated with production” of ETO in 2017.

A search was conducted in EHS Suites for environmental incidents related to ETO using the following parameters:

Time range: 1/1/17 to 12/31/17.

#### **Section 8.9: Production Ratio or Activity Index**

To determine the production ratio, we will use the estimated number of pallets sterilized in each chamber.

For the New Sterilizer: This calculation assumes that (6) pallets of product were sterilized in each cycle run in Chamber A and B.

2017 -588 Runs

2016 - 570 Runs

**Ratio =  $588 / 570 = 1.03$**

#### **Section 8.10: Source reduction activities**

NA. There were no ETO source reduction activities conducted at the facility.